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SOCIAL SELECTION.¹

SOCIAL progress depends primarily upon the quality of population. The quality of population is determined from generation to generation by selective forces, most of which are social rather than natural. Under present conditions these forces, at least in most of continental Europe, tend to lower rather than to raise the quality of humanity. The hope for permanent human betterment lies in systematic selection.

These are the main propositions of Dr. de Lapouge's work, so far as concerns the more general portion of his argument. If the argument went no further than the elaboration of these principles it might be regarded as the most recent and one of the most important expositions of the views of the selectionist school of sociology. But the work has a more special and individual character as an analysis of human selection from the point of view of anthropology and ethnology. It is, in short, an examination not merely of social selection as ordinarily understood, but also of what may be called racial selection.

The study of racial selection, in which de Lapouge and Otto Ammon may be regarded as the pioneers, and which is being pursued by Collignon in France, Oloriz in Spain, Livi in Italy, Chalurmeau in Switzerland, Ripley and others in this country, seems likely to yield a much more intimate insight into the working of social forces than has hitherto been attained, and such a contribution to that study as the present work is of fundamental importance. Indeed, if the theses here maintained are substantiated they may revolutionize prevailing conceptions of social science and furnish a new basis for social polity. It is this part of the work, however, which is the more provisional and hypothetical in its character, and many sociologists who

¹ G. VACHER DE LAPOUGE: *Les Selections Sociales. Cours libre de la Science Politique professé à l'Université de Montpellier* (1888-9), Paris, 1896.

agree with the author in regarding selection as the key of social problems will object to his ingenious method of picking the sociological lock with the aid of anthropological data and hypotheses. In the exposition itself the two elements of the work—the general or sociological, and the technical or anthropological—are closely intertwined, but logically they are separable. Whether or not the anthropological results be ultimately sustained, the more general portion of the work has a value all its own.

The present volume presents in modified form and in the light of the most recent evidence many ideas which were suggested by de Lapouge as early as 1885 and 1886, and which have been sustained, modified and developed in a series of monographs, the titles of which will indicate the range of the author's investigations.¹

¹ "Études sur la nature et sur l'évolution historique du droit de succession" (*Revue général du droit*, 1885-6).—"Étude première, Théorie biologique du droit de succession," Paris, 1885.—"L'hérédité" (*Revue d'Anthropologie*, 1886, 512-521).—"La dépopulation de la France" (*ibid.*, 1886, 69-80).—"L'anthropologie et la science politique" (*ibid.*, 1887, 136-151).—"Les sélections sociales" (*ibid.*, 1887, 519-550).—"De l'inégalité parmi les hommes" (*ibid.*, 1888, 9-38).—"La théorie plastidulaire et les lois mécaniques de l'hérédité" (*Bulletin de la Société des Sciences naturelles de Montpellier*, 1888).—"L'hérédité dans la science politique" (*Revue d'Anthropologie*, 1888, 169-191).—"Questions aryennes" (*ibid.*, 1889, 181-193).—"Crânes modernes de Montpellier" (*ibid.*, 1889, 687-699).—*Les Lois de l'Hérédité*, Lyon, 1890.—"Crânes modernes de Montpellier, 2^e série" (*L'Anthropologie*, 1890, 36-42).—"Crânes préhistorique du Larzac" (*ibid.*, 1891, 681-695).—"Crânes de gentilshommes et crânes de paysans" (*ibid.*, 1893, 317-322).—"Le Darwinisme dans la science sociale" (*Revue internationale de Sociologie*, 1893, 414-436).—"Crânes modernes de Karlsruhe" (*L'Anthropologie*, 1893, 733-749).—"L'origine des Aryens" (*Science*, August 1893).—"Die Auslesse durch den Krieg" (*Globus*, B. 64, n. 20).—"Lois de la vie et de la mort des nations" (*Revue internationale de Sociologie*, 1894, 421-436).—"Matériaux pour la géographie anthropologique du département de l'Hérault" (*Bulletin de la Société languedoc de Géographie*, 1894, livres 3, 4).—*L'Origine des Ombro-Latins*.—"Les pygmées néolithiques de Soubès" (*Bulletin de la Société scientifique et médicale de l'Ouest*, 1895).—"Recherches sur l'Anthropologie de l'Ille-et-Vilaine" (*ibid.*, 1895, 10-17).—"Transmutation et sélection par éducation" (*Revue internationale de Sociologie*, 1895, 169-190).—"Recherches anthropologiques sur le problème de la dépopulation" (*Revue d'Économie politique*, 1895, 1002-1029; 1896, 132-146).

In the above list the asterisks indicate monographs that have been with some changes incorporated into the present work.

The history of the growth of the selectionist school of sociologists is still to be written.¹ As a document in the direction of such a history, de Lapouge's prefatory sketch of the development of this tendency of thought is of interest:

"This volume is the development of a work published in 1887 in which I gave a résumé of my course given in 1886-7 upon the subject of social selection. In these lessons will be found the first comprehensive doctrine of the forces of social selection. From the publication of the *Origin of Species* the most far-sighted minds realized that the interpretation of history and of the evolution of societies, and even the bases of morals and politics could not remain as they had been. Clémence Royer was probably the first to point out—in the preface of her translation of the *Origin of Species*—that Darwin's discovery was even more important for sociology than for biology. For twenty years the question of selection has been considered by philosophers, hygienists, criminologists and anthropologists, but with reference to particular applications of the doctrine, and without anyone apparently having understood the full extent of the problem. Broca alone, with his customary boldness, dared look the sphinx in the face. The last four pages of his review² of Darwin's *Descent of Man* suggest the main aspects of social selection.

"At the time of my essay it was impossible to present adequate statistics to establish the doctrines advanced. I furnished all that it was possible to furnish—statistics taken from Candolle and Galton. The greater part of the phenomena of selection were understood, but the observation had not been crystallized into statistics. This explains why many critics regarded my ideas as ingenious but insufficiently established.

"The situation has changed. The publication of *Les Sélections Sociales* was followed by extensive researches in France and other countries. These researches have done nothing to weaken the selectionist theory, and they have brought to its support a

¹ Dr. von Tille's history of selectionist ethics, *Von Darwin bis Nietzsche*, leaves much to be desired.

² *Revue d'Anthropologie*, 1872, p. 705.

mass of detailed proof. The discovery made by Ammon of the concentration in the cities of dolichocephalic elements has shown that my boldest propositions were well within the limits of reality. On many points, indeed, I have advanced beyond my position of nine years ago. I accord much more weight to internal selection, and less importance to the effect of invasions and migrations in the makeup of the dominant classes. Further, I have given up the criterion of customary morality to search for the criterion of selectionist morality."

Two qualities appear prominently in this as in all of de Lapouge's previous work. One is the positiveness with which his views are stated and the courage with which they are carried to their ultimate conclusions—if not beyond. There is no spirit of compromise with critics or with the ordinary conventions of books intended for the general reader. If the opinions seem often extreme, it is partly because the work is, as the author points out, written with reference to local or national conditions or tendencies, leaving the foreign reader to make his own modifications; and because the author aims at a sharp rather than an ultimate statement of his ideas. If his frankness seems sometimes startling, it is because the importance of the problem transcends conventionalities.

The other striking characteristic of our author's work is at once its breadth of outlook and its concentration of varied sorts of knowledge toward the solution of its central problems. It seems the work of a co-operating group of scientists rather than of a single student. It is in fact the achievement of a most acute, receptive mind, the fruit of varied experiences and of unceasing assimilation of the work and experience of others. One might go far to find a work so suggestive and enlightening with reference to the subject-matter of the whole group of social, ethical and political sciences. "I read the proof sheets with great regret, for I find my best ideas anticipated," was the comment of the prominent author of an historical work now in course of publication. "Lapouge," said a German anthropologist, "is the great anticipator." Apart even from the validity of the

main thesis of the work, it is sure to be of great service, as have been the earlier essays embodied in it, in stimulating enquiries into the interpretation of history and philosophy of progress, into the problems of sociology, politics and ethics, as well as into the more special questions of the composition of populations and the detailed working of selective forces.

In presenting a brief paraphrase of this work I shall attempt to reproduce only certain of the more important or interesting portions, suggesting few criticisms, but sometimes modifying or omitting portions of the argument where the positions seem extreme, or the interest comparatively local.

Heredity signifies the complex of those laws in accordance with which organic beings produce their kind, in accordance with which the new being is a reproduction of the qualities of its ancestors and its race. Heredity is thus in general an essentially conservative force in virtue of which the generations of a species would, if no other agency intervened, follow each other with comparatively little change. Individuals would indeed have a certain individuality of their own; for apart from the possible appearance of unexplained or "spontaneous" variations,¹ each individual might represent a distinct combination of ancestral characteristics. Given the appearance of variations, and the radical and transforming agency in evolution is selection—the complex forces that determine which varieties or which species shall increase and which shall disappear.

Heredity tends, then, to perpetuate in the new generations the specific characteristics of the ancestry. It appears to be true that characteristics acquired during the lifetime of the individual are not as a rule transmitted to his posterity. Exceptions to this rule may perhaps be found in the following cases: (1) where the reproductive cellules, or the embryo are themselves affected, as by vaccines or by cellular secretions; and (2) where certain somatic modifications (probably in all cases injuries or pathological modifications) lead to corresponding defects in

¹ On the origin of variations see A. WEISMANN: "Germinal Selection," *Monist*, 1896, p. 250.

the offspring. There is no good evidence of the transmission of positive acquired characteristics. If such transmission occurs it is so rare that the best biologists cannot discern it.¹

Independently of the particular biological theories of the mechanism of heredity, the more obvious phenomena of observation may be provisionally resumed in the following six laws : (1) Heredity acts not upon the individual in his entirety, but upon each minute biological unity which enters into his composition. It is exercised by each "plastidule" (to use this word simply as designating the ultimate biological element entering into the composition of the cellule)—by each plastidule of the ancestor upon each plastidule of the descendant. It is exercised by each plastidule, for instance, of the brain upon each plastidule not merely of the brain but of all parts of the body of the descendant. Only its action is different upon homogeneous and upon heterogeneous parts. This law explains many of the phenomena of pathological heredity and of what may be called latent heredity. In latent heredity, for example, it appears that atavism results when the remote ancestral force which in the parents has been scattered throughout the plastidules, finding in the child a point of weak resistance becomes concentrated in a group of plastidules, in a limited region of the body, in sufficient strength to make itself felt.

(2) Each plastidule exercises and submits to heredity independently of the others. The descendant is a sort of mosaic of ancestral traits ; these are brought into juxtaposition, but never perfectly blended. This law finds its principal applications in the case of hybrids and crosses ; the unbalanced variations, the lack of harmony, the incoherence ascribed to them in the works of Naudin, Gaertner, Darwin and others are the necessary consequences of the independence of transmission as between the biological unities of which the organism is composed. The infertility and extinction of hybrids is a special application of the same law.²

¹ Pp. 40-50, 105-109.

² These tendencies toward physical and psychic incoherence among crossed types,

(3) The hereditary power varies as between the different plastidules, and with the same plastidule as between different times.

(4) Hereditary influences persist indefinitely. This persistence manifests itself strikingly in atavism—the reappearance of the characteristics of more or less remote ancestors which have not appeared in the intermediary generations. It manifests itself further in the manner in which the embryo in its development repeats the stages of ancestral evolution.

(5) The sum of hereditary influences acting upon each individual may be regarded as pertaining one-quarter to the father, one-quarter to the mother, one-quarter to the paternal ancestors, and one-quarter to the maternal ancestors (Law of Galton). Individual ancestors have thus on the average a degree of influence decreasing rapidly as the generations progress. The influence of a grandparent would average one-sixteenth; the influence of an ancestor twenty degrees removed would average less than one-millionth. This explains the rarity of atavism to the characteristics of remote ancestors. Such a case occurs only when the more immediate ancestral influences counterbalance and neutralize each other or when their action is in some way suspended.

(6) The possible combinations of hereditary transmission may be theoretically or diagrammatically represented by the parallelogram of forces. This geometrical analogy helps us to understand the effects of the convergence or the opposition of hereditary forces, the absence or the neutralization of one or several, and to explain those paradoxical cases which appear to be exceptions but are in reality exemplifications of the principle of heredity. The use of the analogy must not be allowed to conceal the ultimate causal dependence of the phenomena of

and the usually prompt disappearance of the crossed type through infertility (caused probably by such incoherence) or through reversion to one of the original types are elaborately discussed in pages 155–196, and in “Recherches sur le problème de la dépopulation” (*Revue d'Économie politique*, 1895, pp. 1002–1029, and 1896, pp. 132–146). For a criticism of these arguments see “Ethnic Influences in Vital Statistics,” by W. Z. RIPLEY in Publications of American Statistical Association, March 1896.

heredity upon the laws of stereochimy and of chemical mechanics.¹

The race is fundamental in heredity and in selection. No one can comprehend the working of social selection, the functioning of the most intimate forces of the life of peoples, if he ignores the nature and the influence of the factor of race, and the physical and psychic characteristics of the principal races of men. A race is properly a biological group, not an accidental, political or linguistic assembling of individuals, a group possessing in common a certain hereditary type.

While no such group of men can have remained without intermixture it is possible to distinguish the principal human races, and to classify existing individuals as representing more or less accurately the pure type of one or another race. The evidence of prehistoric remains shows races already most sharply characterized, and compels us to regard present individuals of intermediate characteristics as crosses, and as by no means the residuum of primitive forms not yet differentiated into distinct races.

The fundamental races entering into the population of Europe (portions of the southern peninsulas excepted) are—to adopt for the sake of precision the terminology of Linnæus—*Homo Europæus* and *Homo Alpinus*.

Homo Europæus (equivalent to dolicho-blond)—Average height of adult males about 1^m.70, less in antiquity, greater in Scandinavia and in some states of the Union. Cephalic index (ratio of the width of the head to the length) from 72 to 76. The center of his area of dispersion is the North Sea. Almost pure in Great Britain and Ireland, this race forms the dominant element of the population of maritime Belgium, of Holland, of the parts of Germany bordering on the North Sea and the Baltic, and of Scandinavia. It predominates largely in the United

¹ See WEISMANN: "Germinal Selection." "... powerful determinants in the germ will absorb nutriment more rapidly than weaker determinants . . . every determinant battles stoutly with its neighbors for food, that it takes to itself as much as it can, consonantly with its power of assimilation and proportionately to the nutrient supply."—*Monist*, 1896, p. 273.

States, Canada, and Australia. In France and in most of Germany it forms a secondary but still important element in the population of the plains; above an elevation of 100^m it becomes rare. Its former area of dispersion was much broader; it covered all Europe, the north of Africa and Asia Minor, and certain of its branches penetrated even to India, Persia, and China. It probably originated by climatic selection in the region now mainly submerged under the North Sea. This race comprises perhaps thirty million individuals in Europe, twenty million in America. Cross types closely resembling it embrace an equal number.

Psychologically this race presents great extremes on the one hand of high capacity, and, on the other, perhaps, also of deficiency and worthlessness. At its best at any rate it is more domineering, enterprising, and self-reliant than other races. Its mental horizon is wider, its ambition and courage more impetuous. It has large needs and works ceaselessly to attain its ends. It understands better how to gain wealth than to save it. Adventurous by temperament, it shrinks from nothing. Progress is its most intense need. In religion it is protestant; in politics it demands mainly freedom for individual activity. It sees far ahead its own interests and those of its nation and race, and aspires to the highest destinies.

Homo Alpinus (equivalent to brachycephalic type)—Average adult height 1^m.60 to 1^m.65. Average cephalic index 85 or 86. Color of the skin, eyes and hair, usually dark or medium. With the exception of Spain, southern Italy and the Islands this race is thickly distributed from the Atlantic to the Caspian and the Euphrates. Except in Poland it does not, however, often predominate in the plains; they are the chosen abode of *H. Europæus* in more or less pure form. Above 200 meters it predominates and above 500 meters it has almost exclusive sway. Its area of dispersion, although immense in territory, is relatively thinly settled and the race is not represented in Europe by more than sixty million of individuals of approximately pure type. *Homo Alpinus* is probably a hybrid which has become fixed and con-

stant, the result of a crossing between *Homo Acrogonus* and certain other types.

Psychologically, the brachycephalic is frugal, laborious and prudent. Without lacking courage he is far from warlike in his tastes. He is strongly attached to his native soil. Rarely worthless, he attains rarely to genius. The circle of his views is narrow, but he works patiently to realize them. He follows tradition and "good sense," adores uniformity and is suspicious of progress. In religion he is by preference Catholic, in politics he invokes the protection of the state and tends to attack those who surpass the level of mediocrity. He sees clearly his immediate personal and family interests, but the frontiers of his country are often too broad for his vision. With the cross types the egoism of the brachycephalic is often emphasized by the energetic individualism of the dolichocephalic and the sentiment of family and race is weakened; there follow extreme cupidity and all the vices of the bourgeois and finally elimination of the family by the excess of self-restraint.¹

Lack of space precludes even a summary of the theories advanced as to *Homo Contractus*, *Homo Acrogonus*, and other minor forms. It is necessary, however, to state the author's attitude with reference to the so-called Mediterranean type. This term was used by Broca to designate the short, dark dolichocephalics dispersed on all the coasts of the western basin of the Mediterranean, in the islands, in Spain, southern Italy, and the north of Africa. This group is in reality extremely complex and the prevailing views in regard to it require a thorough revision. Much of the population that has been confounded with it, particularly in the south of France, is blond instead of dark. The type of the dolicho-brown can hardly be regarded as homogeneous. In Europe, in the north of Africa, and in Spanish America it numbers perhaps thirty millions of individuals more or less

¹ Pp. 17-23; cf. DE LAPOUGE, "Recherches Anthropologiques sur le problème de la dépopulation" (*Revue d'Économie Politique*, 1895, pp. 1002-1029, and 1896, pp. 132-146). For a suggestion that the brachycephalic type is better adapted to the requirements of modern social and political groups see A. FOUILLEE: "Dégénérescence le Passé et le Présent de nôtre Race," *Revue de deux Mondes*, 15 Octobre, 1895.

pure. It is rare in western and central Europe except in regions colonized by Moors or Spanish Jews and in the more cosmopolitan cities.¹

Social selection, or to use the term of Wallace, human selection, is the great force in altering the quality of population. Education has only a limited effect upon the single individual, and even this effect is not in any appreciable degree transmitted to his descendants; it cannot be relied upon as the primary means of human improvement.² Climate and regimen have a large influence in shaping the character of population, but this influence is exerted through a selective process favorable to the perpetuation only of the types best suited to the prevailing regimen and climate.³ The influence of climate and regimen belong primarily to the category of natural selection, though even their action is largely modified by human foresight and invention so that they become, at least indirectly, forces of human rather than natural selection. The same is true of pathological selection—the selection exerted by disease: the fitness of the individual to resist depends not only upon his physical endowment but upon his habits, his intelligence, his ability to employ the best medical services. Sexual selection which may from some points of view be classed as a natural selection, is yet more obviously conditioned upon ethical, æsthetic, legal, and distinctly social factors. The field of natural selection in the proper sense is then extremely restricted among civilized men; it is the various forces of social selection that are all important.⁴

The quality of population, then, depends in the long run upon the action of social selection. The quality of population is in turn the principal factor on which depends the course of history and the progress of civilization. These propositions are illustrated in great detail and in a manner which throws new light on many of the problems of the rise and decadence of nations.⁵ It is evident that the destinies of a people are in clos-

¹ Pp. 26 and 27.

² Pp. 101–125.

³ Pp. 127–153.

⁴ See the *Quarterly Journal of Economics*, January 1896, pp. 157–159.

⁵ The distinguished classical scholar Dr. Otto Seeck is now publishing an elabor-

est correlation with the quality of the elements which compose, and especially with those which control it. If it is rich in energetic and intelligent elements the most disastrous events will have only a limited and temporary influence; the same circumstances may produce an arrest in development, a rapid decadence or a final collapse, if intelligence, and especially if character is lacking, if indecision and discouragement paralyze action. The degree of vitality, the practical judgment, the political ideal and the energy devoted to realizing it vary according as the power is in the hands of different ethnic elements. At one epoch the people rises superior to the most serious obstacles, at another it gives way before insignificant difficulties. The explanation is to be found very largely in the changes that have been wrought meanwhile by selection in the ethnic character of the population, and especially among the class in political power. Other influences in the development of a nation are after all secondary. Thus when the Phœnicians were driven from their position on the Persian Gulf where they were becoming the carriers of the Indian Ocean, they developed another maritime empire in Syria and later in Carthage; while on the other hand the advantages of their first position did not make a maritime people of their successors. Thus Portugal and Holland ceased to be great maritime nations when the *élite* among them were eliminated by war and colonization. Thus while the English have utilized to the full the advantages of their maritime position, the Japanese and the inhabitants of the Mediterranean islands have failed to realize their possibilities, and probably would have failed had they lived in the British Isles.

The Roman people, settling in a geographical location by no means favorable, survived its early dangers and gained power purely in virtue of the high quality of its race, rich, particularly among the patricians, in the element *Europæus*. But it gained empire at the expense of the best elements of its racial stock. From the time of the Punic wars the population steadily deteri-

ate history of the fall of the ancient world along somewhat similar lines. *Geschichte des Untergangs des Antiken Welt* (Erster Band, Berlin, 1895), especially pp. 257-289.

orated. The patricians no longer guarded the purity of their blood. Roman citizenship was extended in wider circles, and slaves were freed in order to fill the depleted ranks of the soldiery. The Punic wars, the social wars, the civil wars almost annihilated the primitive Roman stock and the war between Cæsar and Pompey finished the work.

In Greece of the heroic period the dominant element—the Hellenes—were probably tall, blond, and dolichocephalic, the subjected elements were comparatively brachycephalic. The invasions of the Thessalians, Etolians, and Dorians brought a purer type of *Homo Europæus* as the henceforth dominant element. Warfare between the cities and between the social classes within each city and other less obvious causes tended to keep down and exterminate the dominant classes always comparatively few as compared with the total population. Finally there remained little trace of the ancient class of citizens, and none of the most superior elements. The cities were filled with people of various origin who had gained the name of citizen. There was still a Greece, but no real Greeks. There is a Greece today with the same climate and location, Greek is spoken, but the cephalic index has risen from 76 to 81. If the ancient Greeks were to return, in less than a hundred years the acropolis would be again the center of civilization.¹

The same causes largely determine the development of the internal political life of a nation. As soon as the aristocracy of Gaul and the dolichocephalic blond tribes were rooted out, the masses of the remaining population, composed of *Homo Alpinus* and *Homo Contractus* and mixed types, became docile in the hands of the Romans. The infusion of new European blood by barbarian colonizations brought a new period of energy. After the adventurous European element was diminished by the crusades the character of internal politics changed. The first great step in the decadence of France is the driving out of the Huguenots, and their advent in Prussia is followed by the rise of that power. The modern political impotence of the French

¹ Pp. 74-76, 84-90, 409-442.

people is the result of the successive eliminations, by political and religious struggles, by foreign war and by other adverse selective influences, of the superior elements of the population.¹ So, to cite only one more instance, the great phases of England's development correspond to the domination of different racial elements. The Puritan commonwealth was the work of the dolichocephalic brown type; the modern movement of colonization and expansion is the work of the element of which well-nigh the total population has come to be composed, and of the genius of which England's recent history presents the best illustration—*Homo Europæus*.²

The development of a nation presupposes the presence of superior ethnic elements capable of directing and controlling the masses. These elements may come by peaceful immigration, or at least theoretically by favorable internal selection, but they have usually been furnished by conquering invaders. The period of development is that in which the superior elements multiply, hold the direction of affairs, and impress them with the seal of their personal genius. It is the period of the specialization of races, of the employment of the races, according to their native capacity, in governing, in war, or in labor. The period of decadence follows from the relative or absolute diminution (through unfavorable selection) of the superior elements, and is hastened by the breaking down of their former exclusiveness and the sharing of their power with the inferior classes.³

Social selections may be provisionally grouped under six categories: military, political, religious, moral, legal and economic. The discussion of the working of each of these groups of selective forces is extremely suggestive. Space permits me to refer to only two of the chapters—those on military selection and on economic selection.

Military selection has been at some periods a force favorable to human development. Among civilized peoples, how-

¹ Pp. 74-76, 289, 216-262, 207-242.

² Pp. 74, 90-97.

³ P. 77. These principles do not apply to countries like the United States in which the different ethnic groups or the different types of human capacity have not yet been stratified into distinct social classes.

ever, militarism is destructive of the better elements. Under voluntary recruitment the bravest and most patriotic citizens enter the army and are decimated by the war. Under the system of compulsory service it is the physically or mentally defective portion of the population that is exempt from the possible dangers of war, and at any rate from the hardships of the *caserne*, from the setback in industrial career, and from the postponement of marriage. Dr. Collignon and Otto Ammon have indeed maintained that actual warfare has sometimes a favorable selective effect. In support of this proposition they cite the remarkable perfection of the individuals born after the Franco-German war.¹ But this exceptional excellence of these individuals is not to be attributed to the elimination of inferior elements by the war. These last had remained at home, and the army recruits of 1891 in Germany and 1892 in France who were largely their children show an exceptionally low average quality. The explanation is that the rate of natality among the superior elements which had been kept down during the war was unusually high after its close, that marriages which had been retarded were naturally unusually frequent, the more so because of the fact that celibates had been brought under the colors more promptly than married men. A further explanation is that as the more vigorous soldiers returned, the chances for the marriage of the inferior individuals were lessened. A detailed comparison of the conscripts of Herault of the class of 1891 (the "children of the war") and the class of 1892 shows the former with a greater proportion of brachycephalic subjects, the latter with a greater proportion of dolichocephalic subjects. It appears very clearly from this comparison that in Herault, and probably throughout France and Germany, not only have the weak and defective of every race continued to multiply while the better endowed elements lost a year, but also that the brachycephalic type was favored. If the war had been of longer duration this numerical

¹ These children formed the conscripts of 1892 and the following years in Germany, and of 1893 and the following years in France. See AMMON: *Der Krieg als Werkzeug der natürlichen Auslese*, and K. v. B., *Zur natürlichen Auslese durch den Krieg*.

advantage for the brachycephalics would have overbalanced the subsequent reaction in favor of the dolichocephalic increase. In these data we see in detail the process which has been very general in European history of the substitution of the brachycephalic type for the dolichocephalic by military selection.¹

Economic selection becomes more and more under modern conditions the most important of the selective forces. In most of Europe, at least, it is hostile to *Homo Europæus*, and in general to the better elements of the population. Plutocracy, luxury, artificial standards of life, and the conditions of a professional career, tend in our author's judgment toward the elimination of the élite. Much the most important discussion of economic selection continues, however, upon the question of the selective influence of migrations, foreign and internal.² Indeed it is in this field of inquiry that socio-anthropological research has been most active and most fruitful of results. It is impossible even to resume the data here, but the English reader will find most of the available data in a recent article in which I have treated this phase of social selection.³ It may be interesting to resume here the results at which Lapouge arrives. European emigrants are drawn mainly from the dolicho-blond regions. Where they have originated in countries with the mixed population they represent especially the dolichocephalic blond element of their native country. In virtue of his migratory character, *Homo Europæus* is losing ground faster than he otherwise would in many parts of Europe, but from the cosmopolitan point of view this diminution in the home countries is more than offset by his expansion throughout the habitable world. The ultimate result of the constant but less obvious phenomena of internal migration is less fortunate. A wide range of anthropological statistics appears to prove that as concerns a population like that of most of Europe, composed jointly of *Homo Europæus* and

¹ Pp. 208-242.

² It might perhaps be preferable to classify these most important influences separately as migrational selection.

³ "Dissociation by Displacement: a Phase of Social Selection" (*Quarterly Journal of Economics*, January 1896).

Homo Alpinus, it is the former element that enters most largely into the internal movements of the population and particularly into the migration from the rural districts to the cities.¹ Urban selection tends to eliminate or at least very radically to diminish the elements thus concentrated. This last form of selection is of the greatest danger for modern societies and especially for France.²

The various forces of social selection, in spite of certain favorable aspects, are tending to diminish the superior elements of the population, at least in most of continental Europe. Systematic selection seems, then, more and more necessary, not only to insure progress, but to prevent the impending deterioration of the race. Theoretically and on its scientific or technical side, systematic selection is in our author's judgment perfectly feasible. The difficulties are moral and social. They may perhaps become less formidable with ethnic changes in the present population, with the growth of different ethnical conceptions, and the advent of new systems of social and economic organization.

Systematic selection might aim at any one of the following ends: (1) to constitute a natural aristocracy among a given people, (2) to constitute specialized and distinct castes suited for the different branches of social work, (3) to transform a people as a whole in a given direction, (4) to form a universal dominant race, (5) to improve all humanity by utilizing the most perfect local types, (6) to substitute for existing humanity a single, more perfect, race, etc.

Systematic selection, whatever its ultimate goal, would have to proceed in two directions: (1) to eliminate the degenerate, vicious and incapable elements, (2) to increase and perfect the superior elements. In the promotion of either of these objects

¹ The most recent documents in support of this proposition are Dr. Collignon's "l'Anthropologie du S. O. de la France" (*Annales de Géographie*, January 1896) and De Ujfalvy: *Les Aryens*. The results of Oloriz in Spain — *Distribucion geographica del indice cefalico en España* — and of Livi in Italy — *Anthropometrica militare* — do not, properly interpreted, militate against this principle, but suggest certain extensions and amplifications of its first provisional form.

² Pp. 343-408.

reliance could be placed either upon individual initiative and moral pressure, or upon coercion through public authority. The reform, if it comes at all, will be initiated by individuals and generalized by the action of organized society. Difficult as appears the control of heredity and selection, it seems to be demanded in the highest interests of human welfare. Further, we need not overestimate the obstacles existing in the prevailing ideas of our time. "In the future, and for races whose thoughts and feeling are different from ours, these obstacles will lessen or even disappear. Horizons of which we cannot form the least conception may thus open before humanity."

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